CLAIMS

1. A method of brazing aluminum or aluminum alloy materials, which comprises:

keeping one side of a clad surface of a filler alloy of an aluminum alloy brazing sheet inside a brazing assembly;

forming the brazing sheet to constitute a hollow structure; and

carrying out brazing on the inside of the formed hollow structure without applying flux in an inert gas atmosphere,

wherein said sheet has an aluminum or aluminum alloy core clad with a filler alloy layer composed of an Al-Si-based alloy on one side or both sides thereof, and contains Mg at least in a layer constituting the brazing sheet other than the filler alloy layer.

2. The method of brazing aluminum or aluminum alloy materials according to Claim 1, which further comprises: brazing in an inert gas atmosphere by using flux, in an opening portion other than the inside of the hollow structure.

3. An aluminum alloy brazing sheet, which is

suitable to the brazing method according to Claim 1, wherein one side or both sides of the aluminum or aluminum alloy core material is clad with the Al-Si-based filler alloy, and a cladding thickness a (μm) of the filler alloy applied on the inside of the hollow structure, a Mg content X (mass%) of the core material, and a Mg content Y (mass%) of the filler alloy satisfy relationships of $(X+Y) \leq a/60+0.5$ and $X>Y$.

4. The aluminum alloy brazing sheet according to Claims 3, wherein said sheet is a brazing sheet for use in a heat exchanger.

5. The aluminum alloy brazing sheet according to Claim 3, wherein the Mg content of the filler alloy applied on the inside of the hollow structure is less than 0.2% by mass, and the Mg content of the core material is 0.05 to 1.0% by mass.

6. The aluminum alloy brazing sheet according to Claims 5, wherein said sheet is a brazing sheet for use in a heat exchanger.

7. The aluminum alloy brazing sheet according to Claim 3, wherein the cladding thickness a (μm) of the

filler alloy applied on the inside of the hollow structure, the Mg content X (mass%) of the core material, and the Mg content Y (mass%) of the filler alloy satisfy relationship of $(X+Y) \leq -a/60+1.5$.

8. The aluminum alloy brazing sheet according to Claims 7, wherein said sheet is a brazing sheet for use in a heat exchanger.

9. The aluminum alloy brazing sheet according to Claim 5, wherein the cladding thickness a (μm) of the filler alloy applied on the inside of the hollow structure, the Mg content X (mass%) of the core material, and the Mg content Y (mass%) of the filler alloy satisfy relationship of $(X+Y) \leq -a/60+1.5$.

10. The aluminum alloy brazing sheet according to Claims 9, wherein said sheet is a brazing sheet for use in a heat exchanger.

11. An aluminum alloy brazing sheet, which is suitable to the brazing method according to Claim 2, wherein one side or both sides of the aluminum or aluminum alloy core material is clad with the Al-Si-based filler alloy, and a cladding thickness a (μm) of the filler alloy

applied on the inside of the hollow structure, a Mg content X (mass%) of the core material, and a Mg content Y (mass%) of the filler alloy satisfy relationships of $(X+Y) \leq a/60+0.5$ and $X>Y$.

12. The aluminum alloy brazing sheet according to Claims 11, wherein said sheet is a brazing sheet for use in a heat exchanger.

13. The aluminum alloy brazing sheet according to Claim 11, wherein the Mg content of the filler alloy applied on the inside of the hollow structure is less than 0.2% by mass, and the Mg content of the core material is 0.05 to 1.0% by mass.

14. The aluminum alloy brazing sheet according to Claims 13, wherein said sheet is a brazing sheet for use in a heat exchanger.

15. The aluminum alloy brazing sheet according to Claim 11, wherein the cladding thickness a (μm) of the filler alloy applied on the inside of the hollow structure, the Mg content X (mass%) of the core material, and the Mg content Y (mass%) of the filler alloy satisfy relationship of $(X+Y) \leq -a/60+1.5$.

16. The aluminum alloy brazing sheet according to Claims 15, wherein said sheet is a brazing sheet for use in a heat exchanger.

17. The aluminum alloy brazing sheet according to Claim 13, wherein the cladding thickness a (μm) of the filler alloy applied on the inside of the hollow structure, the Mg content X (mass%) of the core material, and the Mg content Y (mass%) of the filler alloy satisfy relationship of $(X+Y) \leq -a/60+1.5$.

18. The aluminum alloy brazing sheet according to Claims 17, wherein said sheet is a brazing sheet for use in a heat exchanger.

19. An aluminum alloy brazing sheet, which is suitable to the brazing method according to Claim 1, wherein said sheet has a structure of at least 4 layers claded in the sequence of a filler alloy, a diffusion prevention layer, a core material and a filler alloy, and said core material has a composition containing 0.2 to 1.2% by mass of Si, 0.05 to 2.0% by mass of Fe, 0.1 to 1.2% by mass of Cu, 0.05 to 2.0% by mass of Mn and 0.2 to 1.5% by mass of Mg, with the balance being Al and

inevitable impurities.

20. The aluminum alloy brazing sheet according to Claims 19, wherein said sheet is a brazing sheet for use in a heat exchanger.

21. The aluminum alloy brazing sheet according to Claim 19, wherein the filler alloy on the side adjacent to the diffusion prevention layer (hereinafter to be referred to as an outer filler alloy) is an Al-Si-series filler alloy, and the filler alloy on the side adjacent to the core material (hereinafter to be referred to as an inner filler alloy) contains 7 to 12% by mass of Si, 0.5 to 8.0% by mass of Cu and 0.5 to 6% by mass of Zn, with the balance being Al and inevitable impurities.

22. The aluminum alloy brazing sheet according to Claims 21, wherein said sheet is a brazing sheet for use in a heat exchanger.

23. An aluminum alloy brazing sheet, which is suitable to the brazing method according to Claim 2, wherein said sheet has a structure of at least 4 layers claded in the sequence of a filler alloy, a diffusion prevention layer, a core material and a filler alloy, and

said core material has a composition containing 0.2 to 1.2% by mass of Si, 0.05 to 2.0% by mass of Fe, 0.1 to 1.2% by mass of Cu, 0.05 to 2.0% by mass of Mn and 0.2 to 1.5% by mass of Mg, with the balance being Al and inevitable impurities.

24. The aluminum alloy brazing sheet according to Claims 23, wherein said sheet is a brazing sheet for use in a heat exchanger.

25. The aluminum alloy brazing sheet according to Claim 23, wherein the filler alloy on the side adjacent to the diffusion prevention layer (hereinafter to be referred to as an outer filler alloy) is an Al-Si-series filler alloy, and the filler alloy on the side adjacent to the core material (hereinafter to be referred to as an inner filler alloy) contains 7 to 12% by mass of Si, 0.5 to 8.0% by mass of Cu and 0.5 to 6% by mass of Zn, with the balance being Al and inevitable impurities.

26. The aluminum alloy brazing sheet according to Claims 25, wherein said sheet is a brazing sheet for use in a heat exchanger.

27. A method of manufacturing an aluminum alloy heat

exchanger, comprising using the method of brazing aluminum or aluminum alloy materials according to Claim 1.

28. A method of manufacturing an aluminum alloy heat exchanger, comprising using the method of brazing aluminum or aluminum alloy materials according to Claim 2.